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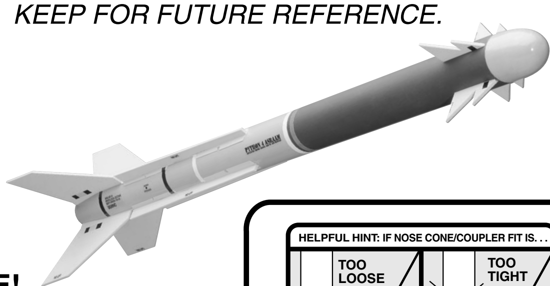
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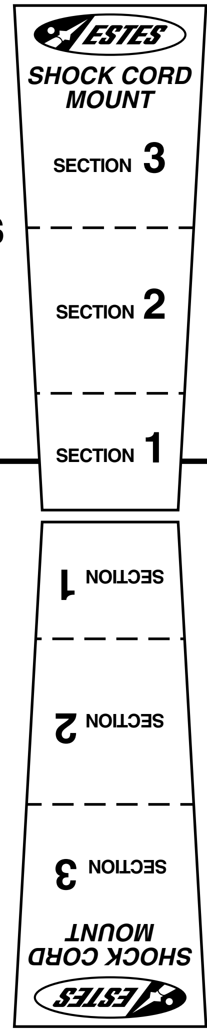
ASRAAM PYTHON 4

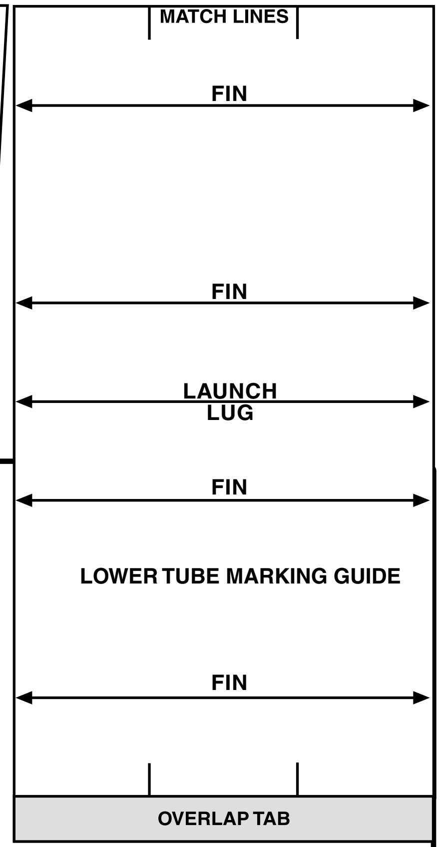
EST 2054/1245

FLYING MODEL ROCKET KIT INSTRUCTIONS

KEEP FOR FUTURE REFERENCE.





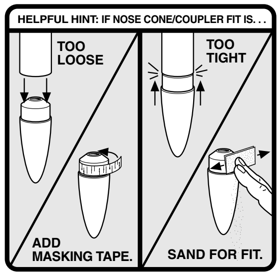


ASSEMBLY TIP:

Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

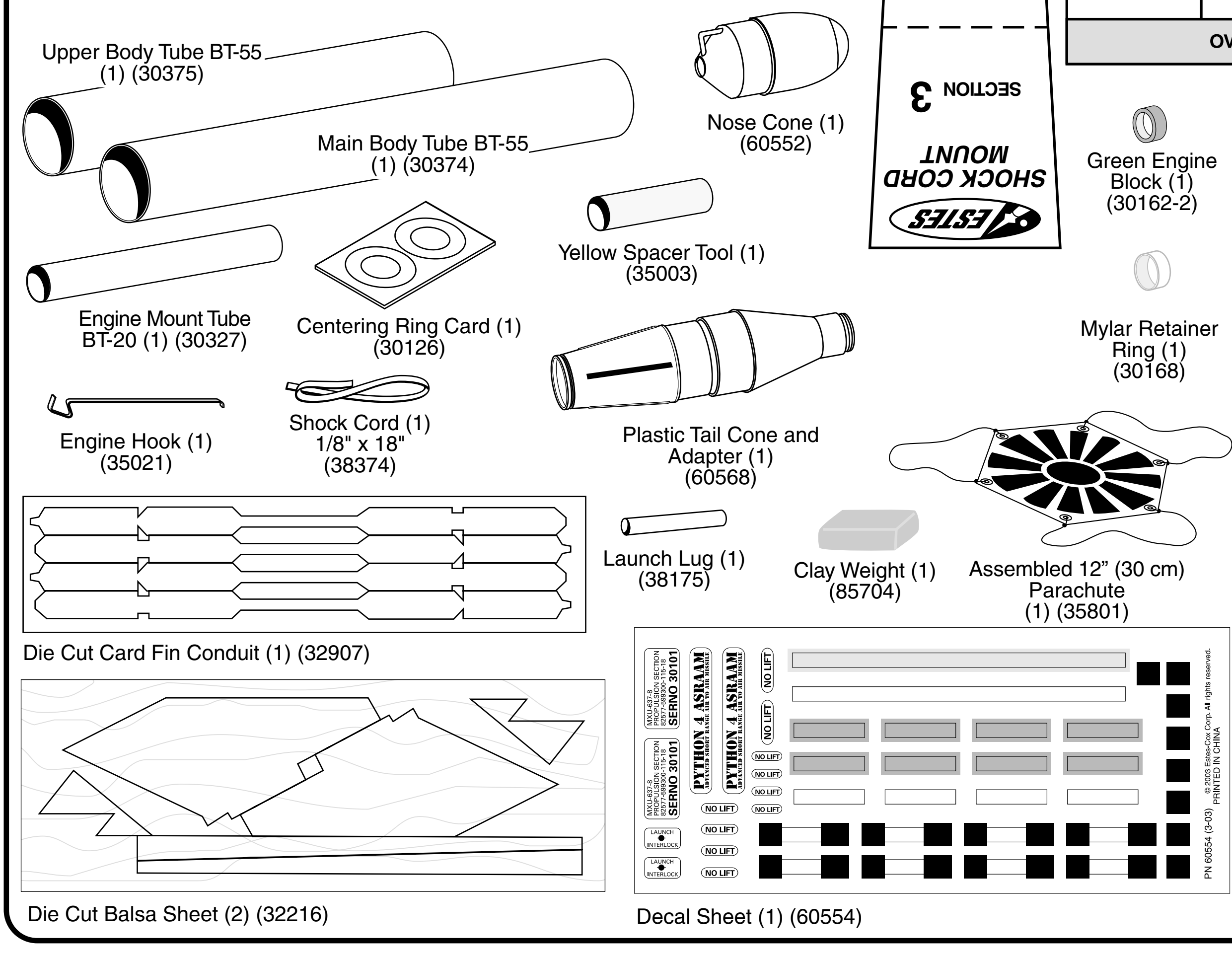
TEST-FIT ALL PARTS TOGETHER BEFORE APPLYING ANY GLUE!

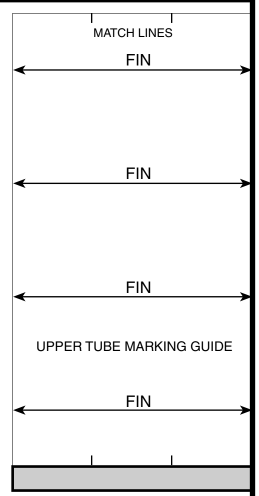
If any parts don't fit properly, sand as required for precision assembly.



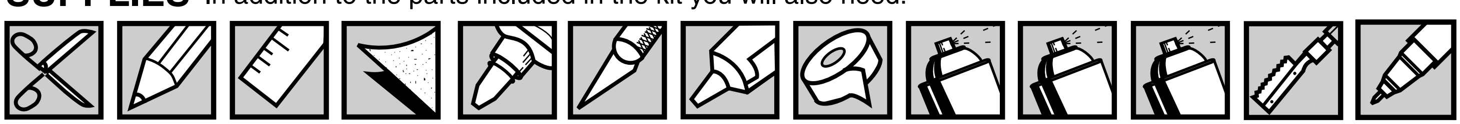
PARTS:

Locate the parts shown below and lay them out on the table in front of you.
DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.





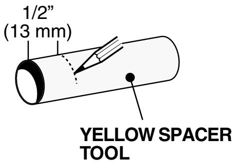
SUPPLIES In addition to the parts included in the kit you will also need:



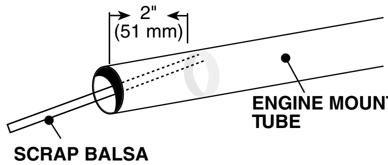
SCISSORS · PENCIL · RULER · FINE SAND PAPER (#400-600 GRIT) · CARPENTER'S GLUE · MODELING KNIFE · PLASTIC CEMENT · MASKING TAPE · SPRAY PRIMER WHITE · SPRAY PAINT: OLIVE DRAB, LT. GREY · SPRAY DULL COAT · RAZOR SAW · SILVER PAINT PEN

1. ASSEMBLING ENGINE MOUNT

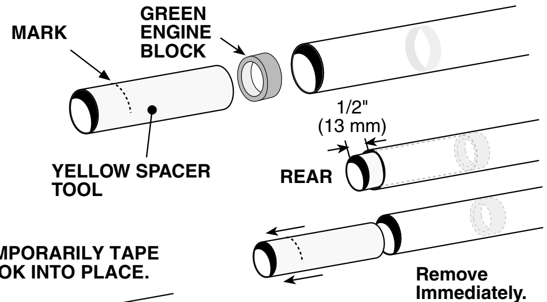
A. MEASURE AND MARK YELLOW SPACER TOOL.



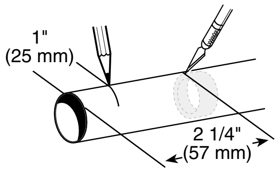
B. USE SCRAP BALSA TO SMEAR GLUE 2" (51 MM) INSIDE ENGINE MOUNT TUBE.



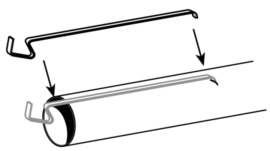
C. PUSH ENGINE BLOCK INTO BT-20 ENGINE MOUNT TUBE WITH SPACER TOOL UP TO MARK. REMOVE SPACER TOOL.



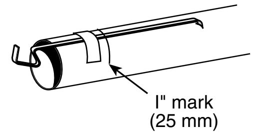
D. MARK ENGINE MOUNT TUBE AT 1" (25 MM) AND 2 1/4" (57 MM) FROM REAR END. CUT 1/8" (3 MM) SLIT AT 2 1/4" (57 MM) MARK.



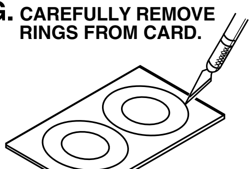
E. POSITION ENGINE HOOK.



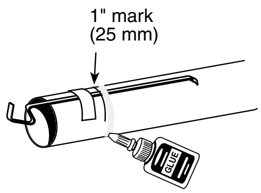
F. TEMPORARILY TAPE HOOK INTO PLACE.



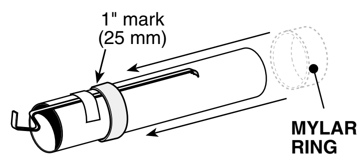
G. CAREFULLY REMOVE RINGS FROM CARD.



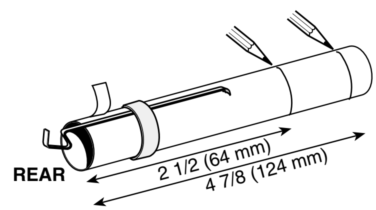
H. APPLY GLUE ABOVE THE 1" (25 MM) LINE.



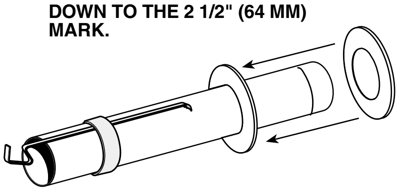
I. SLIDE MYLAR RETAINER RING ONTO ENGINE MOUNT TUBE UP TO 1" (25 MM) MARK. LET DRY.



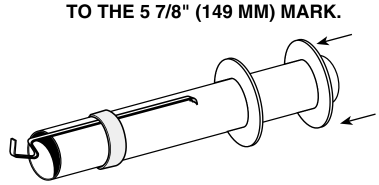
J. PLACE A PENCIL MARK AT 2 1/2" (64 MM) AND 4 7/8 (124 MM) FROM END OF ENGINE MOUNT. REMOVE TAPE.



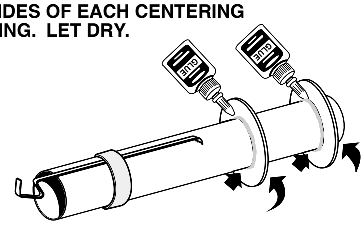
K. SLIDE A CENTERING RING DOWN TO THE 2 1/2" (64 MM) MARK.



L. SLIDE A CENTERING RING DOWN TO THE 5 7/8" (149 MM) MARK.

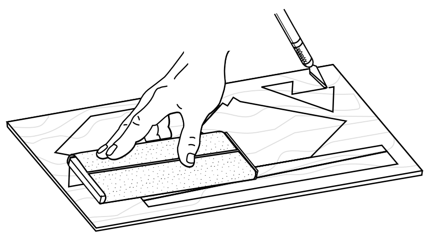


M. APPLY GLUE FILLETS TO BOTH SIDES OF EACH CENTERING RING. LET DRY.

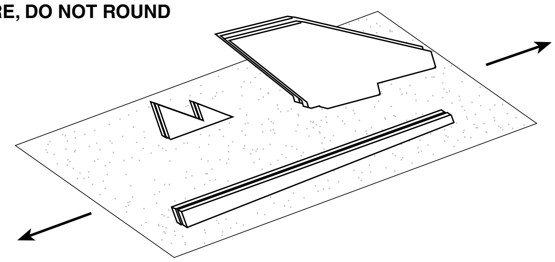


2. PREPARING FINS

A. FINE SAND BALSA SHEETS. CAREFULLY CUT PARTS FREE WITH A MODELING KNIFE.

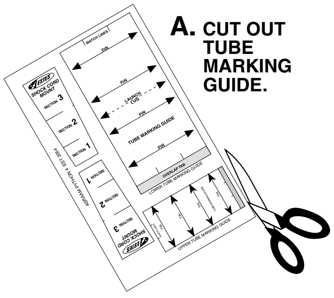


B. STACK LIKE PIECES AND SAND EDGES SMOOTH. LEAVE THE EDGES SQUARE, DO NOT ROUND THEM.

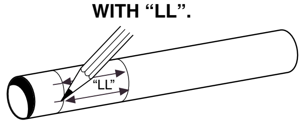


3. MARKING BODY TUBES

A. CUT OUT TUBE MARKING GUIDE.

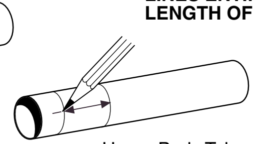


B. WRAP TUBE MARKING GUIDE AROUND LOWER BODY TUBE AND MARK AT ARROWS. EXTEND LINES ENTIRE LENGTH OF TUBE. MARK LAUNCH LUG LINE WITH "LL".



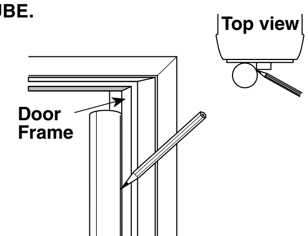
Lower Body Tube
10 3/4" (273 mm)

C. WRAP TUBE MARKING GUIDE AROUND UPPER BODY TUBE AND MARK AT ARROWS. EXTEND LINES ENTIRE LENGTH OF TUBE.



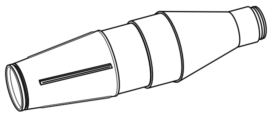
Upper Body Tube
8 5/8" (219 mm)

D. EXTEND ALL LINES ENTIRE LENGTH OF TUBE.

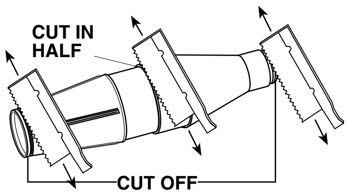


4. PREPARE TAIL CONE AND ADAPTER

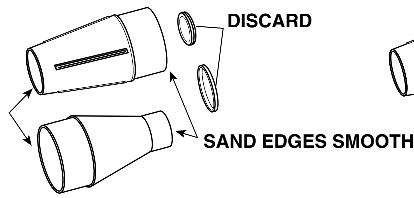
TAIL CONE AND ADAPTER.



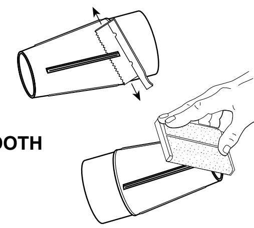
A. USING A RAZOR SAW, CAREFULLY CUT OFF ENDS AND CUT IN HALF.



B. SAND EDGES SMOOTH.

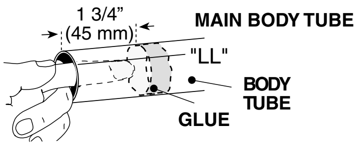


C. CAREFULLY SAW OFF NIBS. SAND AWAY EXCESS PLASTIC LIP FLUSH WITH SURFACE.

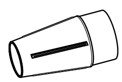


5. ASSEMBLING ENGINE MOUNT AND TAIL CONE

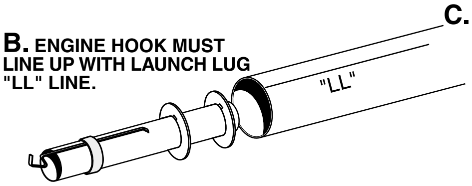
A. USE FINGER TO SMEAR GLUE 1 3/4" (45 MM) INSIDE REAR OF BODY TUBE.



DO NOT CEMENT TAIL CONE YET!

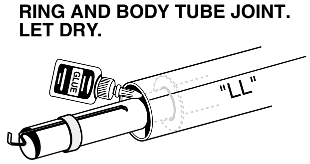


B. ENGINE HOOK MUST LINE UP WITH LAUNCH LUG "LL" LINE.

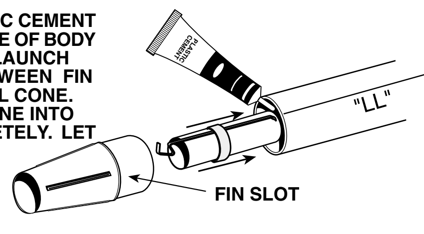


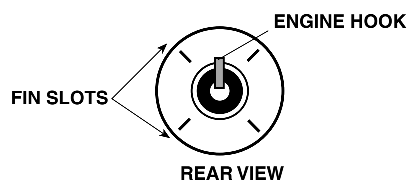
C. INSERT ENGINE MOUNT INSIDE BODY TUBE AND PUSH INTO PLACE WITH TAIL CONE. REMOVE TAIL CONE IMMEDIATELY. LET DRY.

D. APPLY A GLUE FILLET AROUND RING AND BODY TUBE JOINT. LET DRY.

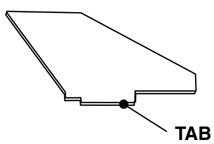


E. APPLY PLASTIC CEMENT AROUND INSIDE OF BODY TUBE. ALIGN LAUNCH LUG LINE BETWEEN FIN SLOTS ON TAIL CONE. PUSH TAIL CONE INTO BODY COMPLETELY. LET DRY.



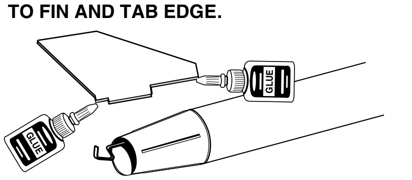


6. ASSEMBLING LOWER FINS

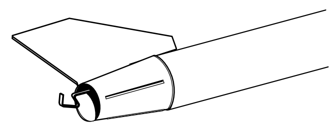


NOTE:
FIN SHAPE AND TAB LOCATION.

A. TEST FIT FINS IN SLOTS. SAND AS NEEDED FOR PROPER FIT. APPLY CARPENTER'S GLUE TO FIN AND TAB EDGE.

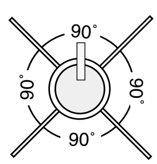


B. PUSH FIN INTO TAIL CONE. LET DRY. CONTINUE TO ASSEMBLE REMAINING FINS. LET DRY.



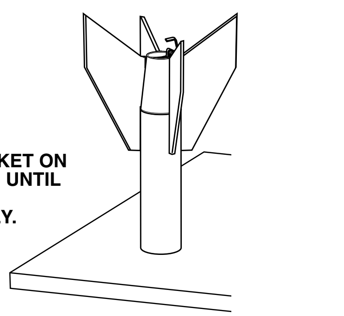
NOTE:
FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT.

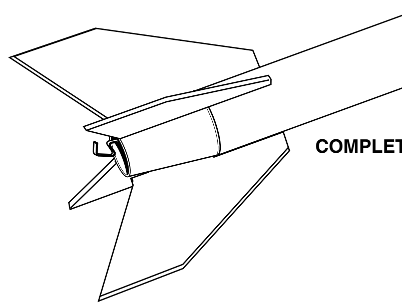
C. CHECK ALIGNMENT OF FINS AS SHOWN. ALLOW GLUE TO SET.



FINS SHOULD PROJECT STRAIGHT FROM THE BODY.

D. STAND ROCKET ON FLAT TABLE UNTIL GLUE DRIES COMPLETELY.

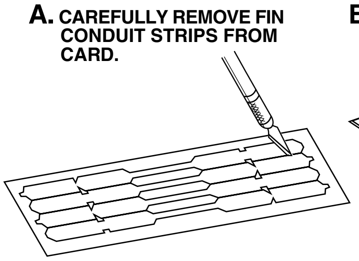




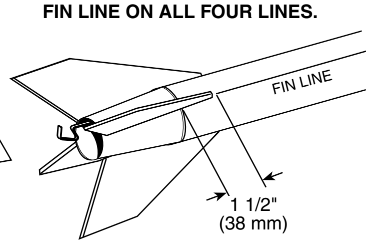
COMPLETED TAIL CONE.

7. ATTACHING FIN CONDUIT

A. CAREFULLY REMOVE FIN CONDUIT STRIPS FROM CARD.



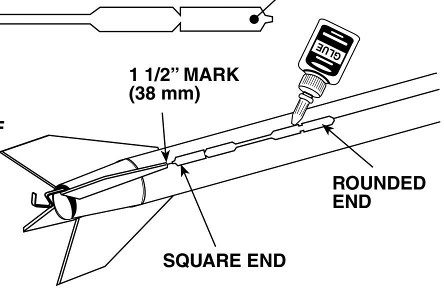
B. MEASURE 1 1/2” (38 MM) FROM END OF BODY TUBE. MARK THE FIN LINE ON ALL FOUR LINES.



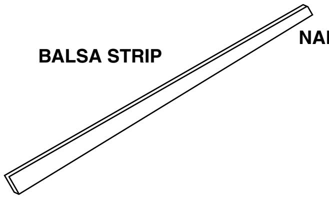
C.



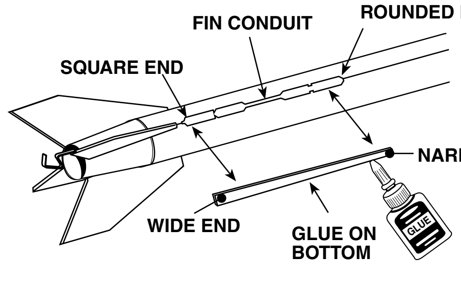
D. APPLY GLUE TO ONE SIDE OF FIN CONDUIT, CENTER CONDUIT ON FIN LINE, MAKE SURE THE “SQUARE END” TOUCHES THE 1 1/2” (38 mm) MARK. LET DRY. CONTINUE WITH THE REMAINING CONDUITS. LET DRY.



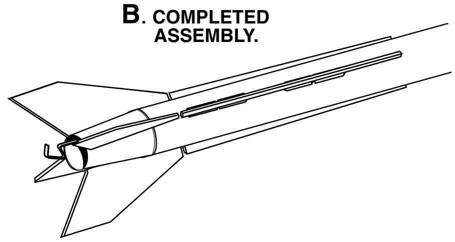
8. ATTACHING BALSA STRIPS



A. APPLY GLUE TO BOTTOM OF BALSA STRIP. WIDE END TOWARD FINS, POSITION BALSA STRIP CENTER ON FIN CONDUIT, WIDE END EVEN WITH FIN CONDUIT END.

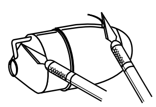


B. COMPLETED ASSEMBLY.



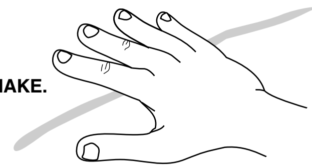
9. PREPARING NOSE CONE

A. CAREFULLY CLEAN FLASH FROM NOSE CONE AND EYELET.

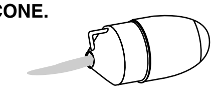


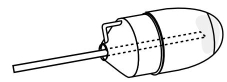
CAUTION:
BE CAREFUL NOT TO CUT OFF EYELET.

B. ROLL CLAY INTO SNAKE.



C. INSERT CLAY INTO NOSE CONE.

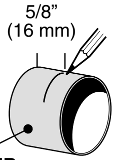




D. PACK CLAY TIGHTLY INTO TIP OF NOSE CONE.

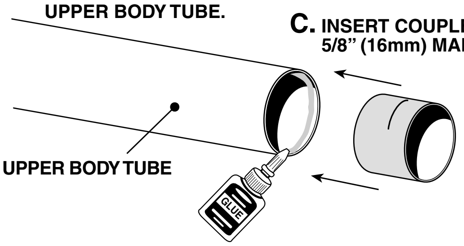
10. ASSEMBLING TUBE COUPLER

A. MARK TUBE COUPLER.

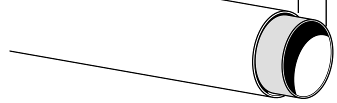


B. APPLY GLUE BAND INSIDE UPPER BODY TUBE.

C. INSERT COUPLER UP TO 5/8" (16mm) MARK.

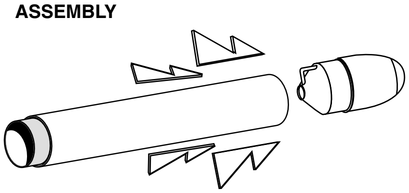


D. LET DRY.

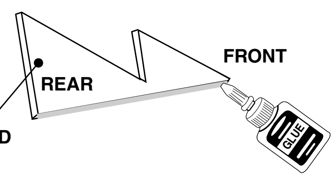


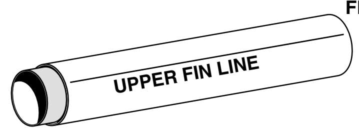
11. ASSEMBLING UPPER BODY TUBE AND FINS

PARTS IN THIS ASSEMBLY

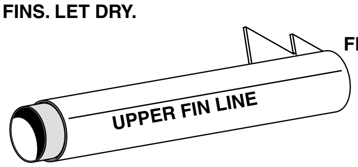


UPPER FIN CONFIGURATION

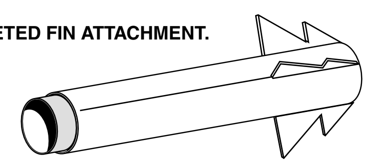


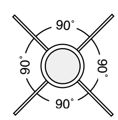


A. APPLY GLUE TO EDGE OF FIN, PLACE ON UPPER FIN LINE. LET DRY. CONTINUE FOR REMAINING FINS. LET DRY.

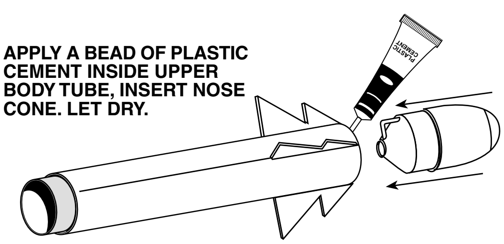


B. COMPLETED FIN ATTACHMENT.

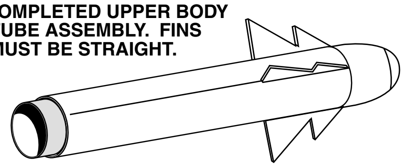




C. APPLY A BEAD OF PLASTIC CEMENT INSIDE UPPER BODY TUBE, INSERT NOSE CONE. LET DRY.

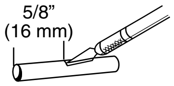


D. COMPLETED UPPER BODY TUBE ASSEMBLY. FINS MUST BE STRAIGHT.

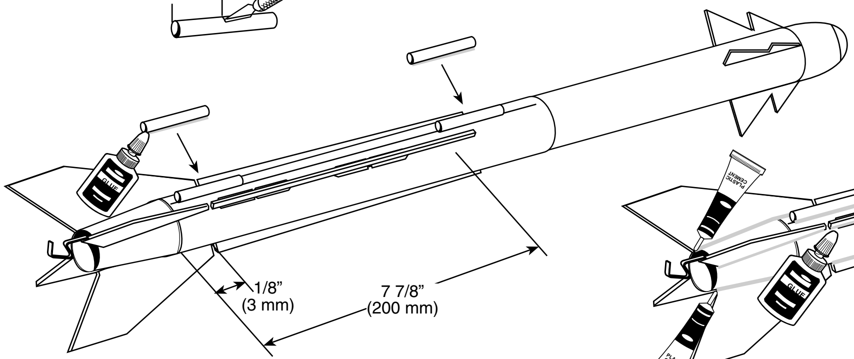


12. ATTACHING LAUNCH LUGS

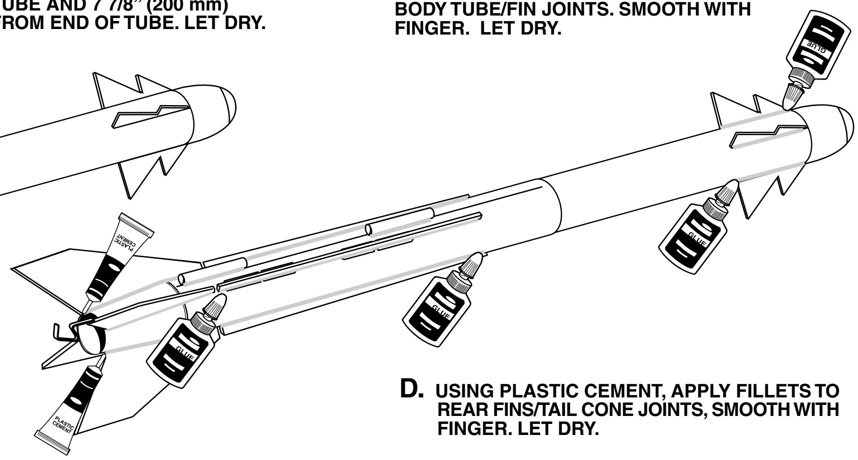
A. CUT LAUNCH LUG IN HALF.



B. APPLY GLUE TO LAUNCH LUG AND ATTACH ON LAUNCH LUG LINE 1/8” (3 mm) FROM END OF TUBE AND 7 7/8” (200 mm) FROM END OF TUBE. LET DRY.



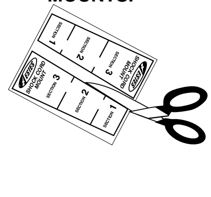
C. USING CARPENTER’S GLUE, APPLY FILETS TO THE LAUNCH LUG/BODY TUBE JOINTS. APPLY FILETS TO BALSA STRIPS AND UPPER BODY TUBE/FIN JOINTS. SMOOTH WITH FINGER. LET DRY.



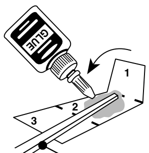
D. USING PLASTIC CEMENT, APPLY FILLETS TO REAR FINS/TAIL CONE JOINTS, SMOOTH WITH FINGER. LET DRY.

13. ATTACHING PARACHUTE

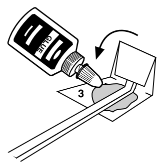
A. CUT OUT SHOCK CORD MOUNTS.



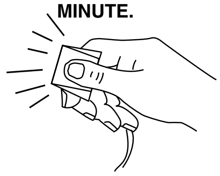
B. APPLY GLUE. FOLD FORWARD.



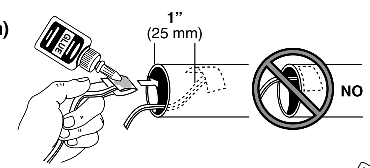
C. APPLY GLUE. FOLD FORWARD.



D. SQUEEZE TIGHTLY AND HOLD FOR ONE MINUTE.

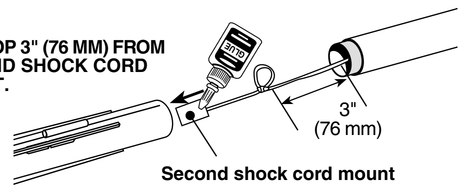


E. GLUE MOUNT 1” (25 mm) INSIDE UPPER BODY TUBE. HOLD UNTIL GLUE SETS. LET DRY.



F. CUT OUT SECOND SHOCK CORD MOUNT. FOLD AND GLUE AS BEFORE.

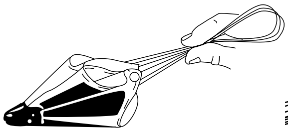
G. TIE LOOP 3" (76 MM) FROM SECOND SHOCK CORD MOUNT.



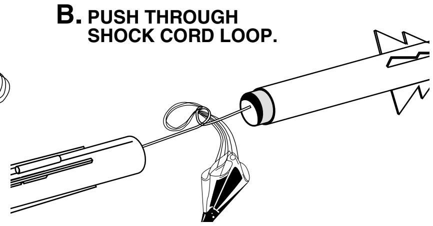
H. APPLY GLUE TO SECOND SHOCK CORD MOUNT AND PLACE INSIDE END OF LOWER BODY TUBE. PRESS FIRMLY. LET DRY.

14. ATTACHING PARACHUTE

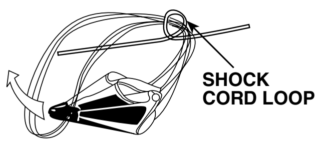
A. LOOP SHROUD LINES.



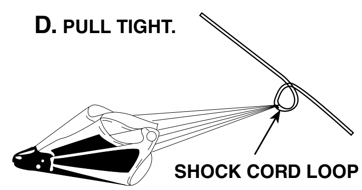
B. PUSH THROUGH SHOCK CORD LOOP.



C. LOOP PARACHUTE THROUGH SHROUD LINES.



D. PULL TIGHT.



PAINT SCHEME

FIRST SPRAY ROCKET WITH WHITE PRIMER, LET DRY AND SAND. REPEAT UNTIL ROCKET IS SMOOTH. FOLLOW THE PAINT SCHEME ON THE PACKAGE.

WHEN PAINT IS DRY, PEEL DECALS ONE AT A TIME FROM BACKING SHEETS AND APPLY WHERE SHOWN. RUB DOWN TO REMOVE BUBBLES.



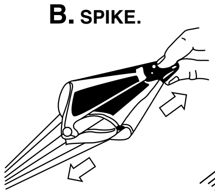
*OPTIONAL - SPRAY A DULL COAT OVER THE ENTIRE ROCKET WHEN COMPLETE.

ROCKET PREFLIGHT

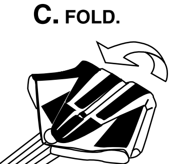
A. INSERT FOUR-SIX SQUARES OF LOOSELY CRUMPLED RECOVERY WADDING INTO ROCKET BODY TUBE.



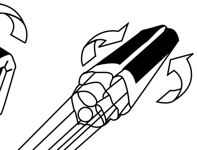
B. SPIKE.



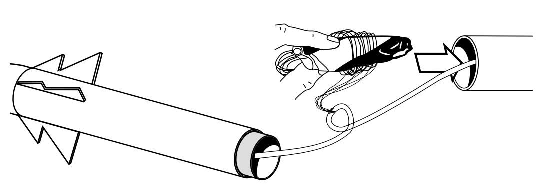
C. FOLD.



D. ROLL.



E. WRAP LINES LOOSELY, INSERT ‘CHUTE, SHOCK CORD AND UPPER BODY SECTION.

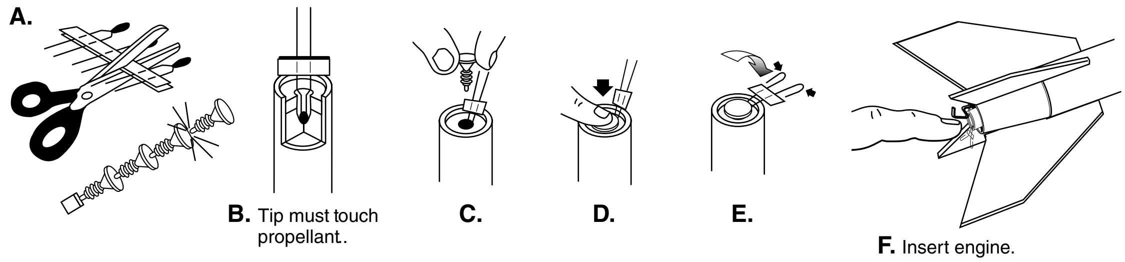


NOTE: Use Estes® Recovery Wadding (EST 302274) only.

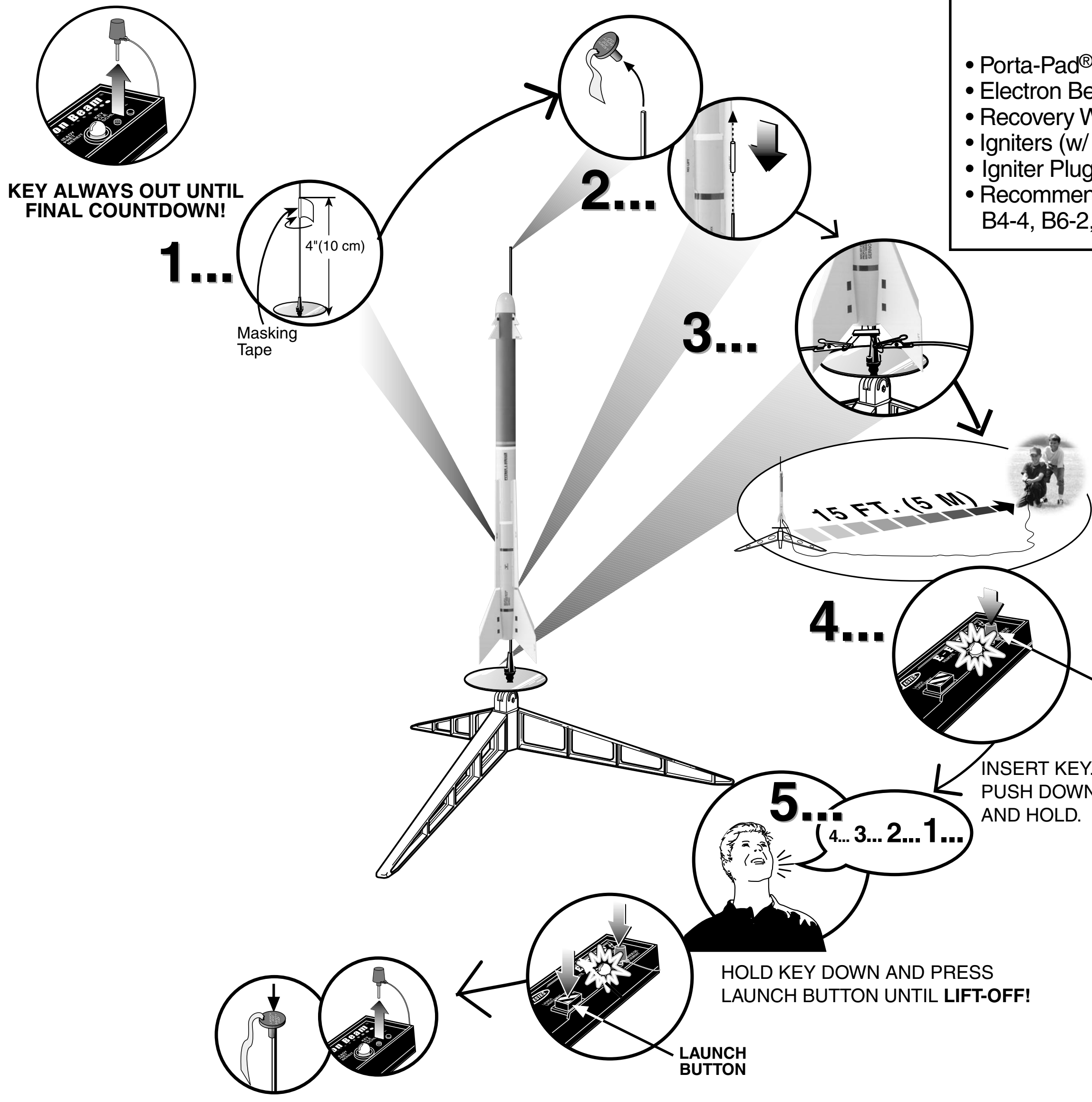
ENGINE PREP

⚠ WARNING: FLAMMABLE

To avoid serious injury, read instructions & NAR Safety Code included with engines.
PREPARE YOUR ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!
If you do not use your prepared engine, remove the igniter before storing your engine.



COUNTDOWN AND LAUNCH



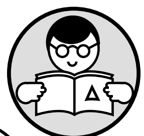
LAUNCH SUPPLIES

(sold separately):

- Porta-Pad® II Launch Pad
- Electron Beam® Launch Controller
- Recovery Wadding
- Igniters (w/ engines)
- Igniter Plugs (w/ engines)
- Recommended Estes® Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5.

PRECAUTIONS

NAR Safety Code





NO DRY GRASS OR WEEDS

FLYING YOUR ROCKET

Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.
Always follow the National Association of Rocketry (NAR) SAFETY CODE.

MISFIRES

TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.

 P/N 60555 (3-02)